

electrodes for applying an electric field across at least some of said liquid crystal material; and

a surface alignment structure on the inner surface of at least said first cell wall providing a single desired alignment to a liquid crystal director;

wherein said surface alignment structure comprises a two dimensional array of upstanding features which are at least one of shaped and orientated to produce the desired alignment; but not including any device in which the surface alignment structure comprises a sinusoidal bigrating.

B₁
C₁

B₂

13. (Twice Amended) A method of manufacturing a cell wall in accordance with claim 11, comprising applying a plastics material to the surface of a wall, and embossing a two dimensional array of alignment features into said plastics material; said method excluding any method which produces a sinusoidal bigrating.

14. (Amended) A method of manufacturing a liquid crystal device in accordance with claim 1, comprising securing a first cell wall to a second cell wall, so as to produce a cell having spaced apart cell walls; filling the cell with a liquid crystal material, and sealing the cell; wherein one or both of said first cell wall and said second cell wall have at least one electrode structure thereon so that said liquid crystal device has electrode structures for applying an electric field across at least some of said liquid crystal material; wherein said first cell wall comprises a wall and said alignment structure on one surface thereof for providing a single desired alignment to the director of a liquid crystal material, wherein said first cell wall is manufactured by a method comprising applying a plastics material to the surface of a wall, and embossing a two dimensional array of alignment features into said plastics material.

15. (Twice Amended) A liquid crystal device comprising:
a first cell wall and a second cell wall enclosing a layer of liquid crystal material;

electrodes for applying an electric field across at least some of said liquid crystal material; and

a surface alignment structure on the inner surface of at least said first cell wall providing at least one of a desired homeotropic or tilted homeotropic alignment to a liquid crystal director;

wherein said surface alignment structure comprises an array of upstanding features which are at least one of shaped and orientated to produce the desired alignment.

B₂
Cont

16. (Amended) A device as claimed in claim 15, wherein said features have a height that is at least equal to the average spacing between said features.

B₃

18. (Twice Amended) A liquid crystal device comprising:

a first cell wall and a second cell wall enclosing a layer of liquid crystal material;

electrodes for applying an electric field across at least some of said liquid crystal material; and

a surface alignment structure on the inner surface of at least said first cell wall providing a desired alignment to a liquid crystal director in a single azimuthal direction;

wherein said surface alignment structure comprises an array of upstanding posts which are at least one of shaped and orientated to produce the desired alignment.

B₄

22. (Twice Amended) A liquid crystal device comprising:

a first cell wall and a second cell wall enclosing a layer of liquid crystal material;

electrodes for applying an electric field across at least some of said liquid crystal material; and

a surface alignment structure on the inner surface of at least said first cell wall providing desired alignments to a liquid crystal director in at least three azimuthal directions;

By
Con wherein said surface alignment structure comprises an array of features which are at least one of shaped and orientated to produce the desired alignments.

23. (New) A liquid crystal device comprising:

a first cell wall and a second cell wall enclosing a layer of liquid crystal material;

electrodes for applying an electric field across at least some of said liquid crystal material; and

B5 a surface alignment structure on the inner surface of at least said first cell wall providing a single desired alignment to a liquid crystal director;

wherein said surface alignment structure comprises a two dimensional array of upstanding features which are shaped and/or oriented to produce the desired alignment; but not including any device in which the surface alignment structure comprises a sinusoidal bigrating or any device in which the said features are treated with or formed from a material which will induce local homeotropic alignment in the liquid crystal material.
